

EFFECT OF CHAIN TRANSFER AGENTS ON THE VISCOSITY MOLECULAR WEIGHT
OF METHYL METHACRYLATE GRAFTED ONTO CHROMIUM-III CROSSLINKED COLLAGEN

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ABSTRACT FOR LIST OF PUBLICATIONS & PATENTS

The potassium persulfate-sodium bisulfite redox couple has been shown to be effective in initiating the graft polymerization of methyl methacrylate onto chromium-III crosslinked collagen. The isolated grafted side chain has a viscosity molecular weight of approximately 1.5×10^6 . A latex, prepared under similar conditions, had a molecular weight of only 4.6×10^5 . Lauryl mercaptan and thioglycolic acid were used as chain transfer agents to modify the molecular weight of the grafted polymer as well as the latex polymer. Only the thioglycolic acid was efficient as a chain transfer agent under our grafting conditions. The effects of the lower molecular weights on the physical properties of the product and on the grafting efficiency were investigated. An explanation of the mechanism of grafting in our system, including the chain transfer involvement, is proposed.

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